



Analysis of Compliance Factors of Chronic Kidney Failure Patients Undergoing Hemodialysis

Suhastinah¹, Syamsul Arifin¹, Eko Suhartono¹, Roselina Panghiyngani¹, Rosihan Adhani¹

¹Master Program in Public Health Sciences, Faculty of Medicine, Universitas Lambung Mangkurat, Banjarmasin, Indonesia

*Corresponding Author: Suhastinah

E-mail: hastinadr88@gmail.com



Article Info

Article history:

Received 1 November 2024

Received in revised form 17 November 2024

Accepted 2 December 2024

Keywords:

Adherence Factors

Chronic Renal Failure

Hemodialysis

Abstract

The aim is to determine the factors associated with compliance of chronic renal failure patients undergoing hemodialysis in RSUD Brigjend. H. Hasan Basry Kandungan Hospital. This type of research is analytic observational with a cross-sectional survey approach. The results of the bivariate analysis showed that there is a correlation between motivation and compliance in chronic renal failure patients undergoing hemodialysis with a Pvalue (0.000) < 0.05 and an OR of 22.222, a correlation between satisfaction and compliance in chronic renal failure patients undergoing hemodialysis with a Pvalue (0.000) < 0.05 and an OR value of 16.667, and a correlation between therapeutic communication and compliance in chronic renal failure patients undergoing hemodialysis with a Pvalue (0.004) < 0.05 and an OR value of 9.118. Based on the results of this study, it can be concluded that there is a correlation between motivation, satisfaction and therapeutic communication with compliance with undergoing hemodialysis in RSUD Brigjend. H. Hasan Basry Kandungan Hospital.

Introduction

Chronic Kidney Disease (CKD) is ranked as the 10th leading cause of death in the world. According to data from the World Health Organization (WHO) in 2019 the number of CKD was 1.3 million people in the world. In 2020 the number of deaths due to chronic kidney failure was 254,028 cases and in 2021 there were 843.6 million cases, which is expected to increase to 41.5% by 2040. Based on data from the United States Renal Data System, the prevalence of mortality in CKD patients in the United States reached 118.3 per thousand population (United States Renal Data System, 2020).

Based on data from Indonesia's Basic Health Research (Riskesdas) survey, it shows that the prevalence of CKD in 2018 in Indonesia was 3.8 cases per 1000 population, almost doubling compared to 2013 (Indonesian Ministry of Health, 2018). According to data by the South Kalimantan Provincial Health Office as of August 23, 2023, data on the number of people with Chronic Kidney Disease in South Kalimantan Province in 2022 were 87 people. In Hulu Sungai Selatan Regency in 2022 there were 6 people.

Report data of renal failure patients undergoing hemodialysis therapy from the Hemodialysis Unit of RSUD Brigjend. H. Hasan Basry Kandungan there were 90 patients undergoing hemodialysis therapy in the last 3 years. The number of patients in 2022 and 2023 decreased by 5.3%. The compliance rate of patients undergoing hemodialysis procedures was recorded at an average of 79.2% in 2022 and 77.9% in 2023 (RSUD Brigjend. H. Hasan Basry Kandungan, 2024).

Patients with hemodialysis therapy cannot recover as before because patients must undergo dialysis throughout their lives, causing these patients to be obedient in undergoing hemodialysis therapy (Puspasari & Nggobe, 2018; Wangi et al., 2019). Adherence to hemodialysis therapy in CKD patients is very important. If the patient is not compliant, toxic substances will accumulate in the body due to metabolism in the blood, causing pain throughout the patient's body which leads to death.

Motivation and hope is one of the factors that can improve patient compliance. Motivation is something that encourages or drives a person to act to achieve certain goals. Low motivation can arise because patients feel the side effects after hemodialysis, there is a feeling of laziness to do repeated injections, bored with their current condition, family lack of support, the distance between the patient's residence and the hospital, and the length of the hemodialysis process so that respondents often feel discouraged (Zuriati, 2018; Bevan, 2007). Based on the results of research by Ernawati et al. (2019), it was found that there was a significant relationship between motivation and compliance with fluid intake restrictions in hemodialysis patients at Ratu Zalecha Martapura Hospital (Ernawati et al., 2019).

Adherence can be explained using several theories such as Koziar's theory and Smet's theory. Koziar's theory (2010) explains that adherence is related to the client's motivation to get well, the degree of lifestyle change, the perceived severity of the health problem, the value of efforts to reduce the threat of disease, the difficulty of understanding and performing specific behaviors, the degree of disruption of the disease or series of therapies, beliefs, complexity, cultural heritage, and the level of satisfaction and quality and type of relationship with the provision of health services. Meanwhile, Smet's (1994) theory in (Arifin, 2020) explains that the factors associated with compliance are communication, knowledge, and health facilities (Arifin et al., 2020; Koziar et al., 2010; Smet, 1994). Based on this description, this research needs to be done with the aim of knowing the factors associated with the compliance of chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan Hospital.

Methods

This type of research is analytical observational with a cross sectional survey approach with a sample of 74 respondents with purposive sampling technique. This research was conducted at Brigjend Hospital. H. Hasan Basry Kandangan Hospital. The research was conducted for 1 month. This research has obtained Ethical Clearance. Data collection was done directly to the respondents. The independent variables in this study are motivation, satisfaction and communication. The dependent variable in this study is the compliance of chronic renal failure patients undergoing hemodialysis. The test used is logistic regression test at 95% confidence level ($\alpha = 0.05$). The instruments used were the motivation variable questionnaire using a questionnaire adopted from the research of Setyawati et al. (2020) on the satisfaction variable questionnaire using a questionnaire adopted from the research of Marlina, AM & Elon, Y (2022), and the communication variable using a questionnaire adopted from the modified research of Kurniasari, D. et al (2024). The patient compliance variable uses the End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ) which has been modified by Kim (2010) in Yuliawati et al. (2022). (Kurniasari et al., 2024; Marlina & Elon, 2022; Setyawati et al., 2020.; Yuliawati et al., 2022).

Result and Discussion

Table 1. Univariate analysis of respondent characteristics

No.	Gender	Frequency	Presentation
1.	Male	41	61,2
2.	Female	26	38,8

No.	Age	Frequency	Presentation
1.	20-29 years old	2	3,0
2.	30-39 years old	8	11,9
3.	40-49 years old	14	20,9
4.	50-59 years old	24	35,8
5.	60 years and above	19	28,4
No.	Last Education	Frequency	Presentation
1.	SD	16	23,9
2.	SLTP	13	19,4
3.	HIGH SCHOOL	18	26,8
4.	D2	1	1,5
5.	D3	6	9,0
6.	S1	11	16,4
7.	S2	2	3,0
Total		67	100,0

Based on table 1, it can be seen that the highest frequency of respondents with male gender was 61.2%, the highest frequency of respondents aged 50-59 years was 35.8%, and the highest frequency of respondents with high school education was 26.8%.

Table 2. Univariate analysis of motivation, satisfaction, therapeutic communication, and hemodialysis compliance

No.	Motivation	Frequency	Presentation
1	Low	11	16,4
2	High	56	83,6
Total		67	100,0
No.	Satisfaction	Frequency	Presentation
1	Low	10	14,9
2	High	57	85,1
Total		67	100,0
No.	Therapeutic Communication	Frequency	Presentation
1	Bad	10	14,9
2	Good	57	85,1
Total		67	100,0
No.	Hemodialysis adherence	Frequency	Presentation
1	Low	14	20,9
2	High	53	79,1
Total		67	100,0

Based on table 2, it can be seen that the highest frequency of respondents with high motivation was 77.1%, the highest frequency of respondents with high satisfaction was 85.1%, the highest frequency of respondents with good therapeutic communication was 85.1%, and the highest frequency of respondents with high hemodialysis compliance was 79.1%.

Table 3. Bivariate and Multivariate Motivation Variables

Motivation	Hemodialysis adherence				Total		P-value	PR
	Low		High					
	N	%	N	%	N	%		
High	8	72,7	3	27,3	11	100,0	0,000	0,305

Low	6	10,7	50	89,3	56	100,0		
Total	14	20,9	53	79,1	67	100,0		

Based on chi square testing, the p value = 0.000 which can be concluded that there is a relationship between motivation and compliance of chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan Hospital.

Table 4. Bivariate and Multivariate Satisfaction Variables

Satisfaction	Hemodialysis adherence				Total		P-value	PR
	Low		High		N	%		
	N	%	N	%				
Low	7	70,0	3	30,0	10	100,0	0,000	0,342
High	7	12,3	50	87,7	57	100,0		
Total	14	20,9	53	79,1	67	100,0		

Based on chi square testing, the p value = 0.000, which can be concluded that there is a relationship between satisfaction and compliance of chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan Hospital.

Table 5. Bivariate and Multivariate Variables of Therapeutic Communication

Therapeutic Communication	Hemodialysis adherence				Total		P-value	PR
	Low		High		N	%		
	N	%	N	%				
Bad	6	60,0	4	40,0	10	100,0	0,004	0,465
Good	8	14,0	49	86,0	57	100,0		
Total	14	20,9	53	79,1	67	100,0		

Based on *chi square* testing, the p value = 0.004, which can be concluded that there is a relationship between therapeutic communication and compliance of chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan Hospital.

Table 6. Recapitulation of Dominant Variables

No.	Variables	B	Wald	Sig	Exp(B)	95% CI
1	Motivation	3,042	9,972	,002	20,948	3,171 - 138,388
2	Satisfaction	2,534	6,596	,010	12,608	1,823 - 87,219
3	Therapeutic Communication	2,159	4,922	,027	8,665	1,286 - 58,370

Based on this study, it can be seen that the most dominant variables associated with compliance of chronic renal failure patients undergoing hemodialysis at RSUD Brigjend. H. Hasan Basry Kandangan in order from the most dominant are motivation (20.948), satisfaction (12.608), and therapeutic communication (8.665).

*Statistically significant (p<0.05)

Multivariate Analysis Results

Multiple logistic regression analysis that has been carried out and presented in the table states that the variables of motivation, satisfaction, and therapeutic communication have a significant relationship with the compliance of chronic renal failure patients undergoing hemodialysis. Meanwhile, when viewed from the B value indicated by the value of Epxonent Beta (EXP B), the variables of motivation, satisfaction, and therapeutic communication have a relationship with the compliance of chronic renal failure patients undergoing hemodialysis.

The resulting B value is positive for the three variables in the satisfaction variable has a value of 12.608 times higher on the compliance of chronic kidney failure patients undergoing hemodialysis. therapeutic communication is 8.665 times more related to the compliance of chronic kidney failure patients undergoing hemodialysis. motivation has a value of 20.948 times more related to the compliance of chronic kidney failure patients undergoing hemodialysis.

The relationship between motivation and compliance in chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan

Based on the results of research from bivariate analysis seen from table 4.21, it shows that there is a relationship between motivation and compliance in patients with chronic renal failure undergoing hemodialysis with a Pvalue (0.000) <0.05 and an OR of 22.222.

The results of this study are also in line with research conducted by Suriya (2017) showing that there is a significant relationship between expectations and motivation towards the rejection of GGK patients who perform hemodialysis at Dr. M. Djamil Padang Hospital. The study showed that patients who had low motivation and expectations refused to do hemodialysis.

In daily life, patients with CKD will be very dependent on hemodialysis therapy with the intention of the patient's desire to extend life and even want to improve their quality of life. Where special criteria are added in this study in the form of GGK patients who are willing to become respondents with decreased motivation levels who have undergone hemodialysis therapy for more than one year. GGK patients who undergo a long-term hemodialysis therapy process are always faced with socioeconomic problems such as financial resources, difficulties in their work profession, decreased sex-biological drive, depression, worry and fear of death. A better and well-planned lifestyle can affect the patient's efforts in undergoing the hemodialysis therapy process which is routinely carried out 2-3 times a week with a duration of between 3-4 hours, in addition to limiting fluid intake properly.

Motivation is a specific internal condition that drives and directs a person's behavior towards a goal. Achievement is the drive to overcome obstacles, exercise power struggling to do something difficult as well and as quickly as possible (Rahmawati, 2020). Motivation means something that encourages action or action. Motivation is all verbal, physical or psychological things that make someone do something in response. Motivation can also be interpreted as a process of movement, a situation that encourages and arises within the individual as well as the behavior caused by the situation and the ultimate goal of movement or action (Junariya, 2024; Suriya, 2017).

The higher the patient's motivation in undergoing the hemodialysis therapy process, the higher the success of the spirit of life and maintaining the quality of health. Meanwhile, if the patient's motivation in hemodialization therapy is less than optimal, it will worsen the condition of patients suffering from chronic kidney failure (CKD) (Junariya, 2024).

The relationship between satisfaction and compliance in chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan

Based on the results of bivariate analysis, it can be seen from the table that there is a relationship between satisfaction and compliance in patients with chronic renal failure undergoing hemodialysis with a Pvalue (0.000) <0.05 and an OR value of 16.667.

Therapeutic failure that occurs in hemodialysis patients can also occur due to lack of patient compliance for repeat hemodialysis visits. When the service obtained by the patient is in accordance with expectations, the patient will reuse the service. Increased patient interest in returning to health services can occur if health services have quality and provide experiences that are in accordance with their expectations. Patient satisfaction is a good basis for harmonious relationships between caregivers and consumers for repeat visits, customer loyalty

and the formation of recommendations that benefit caregivers to create trust and make patients return. The level of patient satisfaction is very important as a benchmark to determine how well the implementation of services in accordance with established service standards (Marlina & Elon, 2022).

The relationship between therapeutic communication and compliance in chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan

Based on the results of research from bivariate analysis seen from table 4.23, it shows that there is a relationship between therapeutic communication and compliance in patients with chronic renal failure undergoing hemodialysis with a Pvalue (0.004) <0.05 and an OR value of 9.118.

This therapeutic communication is one of the good interventions used by nurses to be applied to clients who experience low self-esteem. The application of therapeutic communication in care services has a major role in the progress of client health and can improve interpersonal relationships with clients so that a conducive atmosphere will be created because clients can express their feelings and expectations (Nancye & Lyla, 2021; Greenberg, 2007).

Therapeutic communication is a highly specialized and meaningful process in the interaction between nurses and clients. Therapeutic communication is a relationship between nurses and clients designed to facilitate therapeutic goals in achieving optimal levels of healing. In therapeutic communication there are 3 types of communication, namely verbal, written, and nonverbal. Techniques that can be used include attentive listening, asking questions related to open questions, giving clients the opportunity to start the conversation and many other techniques that can be used (Nancye & Lyla, 2021).

This study is in line with research conducted by (Mabruroh, 2020) regarding the description of the role of nurses in chronic renal failure patients undergoing hemodialysis which shows that therapeutic communication is very important to maintain patient compliance with hemodialysis therapy. Therapeutic communication skills play an important role in helping patients solve the problems they face because of the goal of therapy. So it is very important for nurses to have good communication skills. It can be concluded that the better the nurse's therapeutic communication skills will make patients more compliant with hemodialysis therapy.

Dominant factors associated with compliance in chronic renal failure patients undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan

Multivariate analysis was performed on 3 independent variables that met the requirements of the model, namely motivation, satisfaction and therapeutic communication. after undergoing testing together it turned out to have a significant partial relationship with compliance in patients with chronic renal failure undergoing hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan Hospital.

The value of B is positive in the motivation variable. The magnitude of the relationship is indicated by the Exponent Beta (EXP B) value of the motivation variable of 3.042, meaning that patient compliance with hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan with motivation will be 3.042 times more patient compliance undergoing hemodialysis than low motivation.

Based on this study, it can be seen that the most dominant variables associated with adherence to undergo hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan in order from the most dominant are motivation, satisfaction, and therapeutic communication. One of the problems still found in efforts to increase patients undergoing hemodialysis is the lack of motivation from patients, there are still many patients who lack motivation so that people have the wrong perception about hemodialysis. Motivation is a drive that underlies a person to fulfill their needs. As we know that needs are something contained in humans that need to be responded to or responded to (Apriyanti et al., 2021).

Conclusion

There is a relationship between motivation, satisfaction and therapeutic communication with compliance to undergo hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan Hospital. And among the three independent variables motivation is the most dominant factor associated with adherence to undergo hemodialysis at Brigjend Hospital. H. Hasan Basry Kandangan Hospital.

This research is expected to make the research institution, especially the hemodialysis unit of Brigjend Hospital. H. Hasan Basry Kandangan to provide information and pay attention to the importance of adherence to undergo hemodialysis to participate in increasing motivation to patients undergoing hemodialysis. And can be a reference for other researchers who will conduct research on factors that affect compliance with undergoing hemodialysis and as material to continue research with different variables that have not been studied.

References

- Apriyanti, R., Saputra, B., & Indra, R. L. (2021). Hubungan Motivasi Dan Kemampuan Self Care Terhadap Pengelolaan Nutrisi Serta Cairan Pada Pasien Yang Menjalani Hemodialisis. *Jurnal Kesehatan Panrita Husada*, 6(1), 60–74. <https://doi.org/10.37362/jkph.v6i1.381>
- Arifin, S., Mutisari, D., & Ravenalla Abdurrahman Al Hakim Sampurna Putra S. (2020). *Peta Teori Ilmu Kesehatan Masyarakat (Seri: Administrasi Kebijakan Kesehatan dan Perilaku Kesehatan)*. Universitas Lambung Mangkurat Press.
- Bevan, M. T. (2007). *Experiencing dialysis: A descriptive phenomenological study of nurses and patients in dialysis satellite units* (Doctoral dissertation, University of Huddersfield).
- Ernawati, Diani, N., & Choiruna, H. P. (2019). Hubungan Motivasi dan Kepercayaan dengan Kepatuhan Pembatasan Cairan pada Pasien Hemodialisis. *CNJ: Caring Nursing Journal*, 3(2), 38–45.
- Greenberg, L. S. (2007). Emotion in the therapeutic relationship in emotion-focused therapy. In *The therapeutic relationship in the cognitive behavioral psychotherapies* (pp. 43–62). Routledge. <https://doi.org/10.1037/a0037336>
- Junariya, J. (2024). Faktor-Faktor Yang Berhubungan Dengan Kepatuhan Menjalani Hemodialisis Pada Pasien Gagal Ginjal Kronik Di Ruang Hemodialisa Rsud DR.(HC) Ir. Soekarno Provinsi Kepulauan Bangka Belitung Tahun 2024. *Seroja Husada: Jurnal Kesehatan Masyarakat*, 1(5), 107–118.
- Kementerian Kesehatan RI. (2018). *Profil Kesehatan Indonesia 2017*. Kemenkes RI.
- Kozier, B., Erb, Berman, & Snyder. (2010). *Buku Ajar Fundamental Keperawatan* (7th ed., Vol. 1). EGC.
- Kurniasari, D., Rumondang, P. R., & Sabatini, M. S. N. (2024). Pengaruh Komunikasi Terapeutik terhadap Mutu Pelayanan di Ruang Hemodialisa Rumah Sakit Indriati Solo Baru. *Jurnal Surya Muda*, 6(1), 54–65. <https://doi.org/10.38102/jsm.v6i1.174>
- Marlina, A. M., & Elon, Y. (2022). Gambaran Tingkat Kepuasan Pasien Unit Hemodialisa Terhadap Pelayanan Perawat. *Journals of Ners Community*, 13(5).
- Nancye, P., & Lyla, S. D. (2021). Efektifitas Pemberian Komunikasi Terapeutik terhadap Harga Diri Pasien yang Dilakukan Hemodialisa di Ruang Hemodialisa Rumah Sakit William Booth Surabaya. *Jurnal Keperawatan*, 10(2), 1–9. <https://doi.org/10.47560/kep.v10i2.285>

- Puspasari, S., & Nggobe, I. W. (2018). Hubungan Kepatuhan Menjalani Terapi Hemodialisa dengan Kualitas Hidup Pasien di Unit Hemodialisa RSUD Cibabat – Cimahi. *Holistik Jurnal Kesehatan*, 12(3). <https://doi.org/10.33024/hjk.v12i3.156>
- RSUD Brigjend. H. Hasan Basry Kandungan. (2024). *Data Instalasi Rekam Medik (SIMRS) Tahun 2024*.
- Setyawati, R., Janitra, F. E., & Nisa, C. (2020). Hubungan Motivasi dengan Kepatuhan dalam Pelaksanaan Hemodialisa Di RSI-SA. *The 2nd Unissula Nursing Conference (UNC) Sultan Agung Islamic University*. <http://dx.doi.org/10.26532/unc.v2i1.15435>
- Smet, B. (1994). *Psikologi Kesehatan*. PT Gramedia Widiasarna Indonesia.
- Suriya, M. (2017). Hubungan Motivasi Kesehatan dengan Kepatuhan Pasien Gagal Ginjal Kronik yang Menjalani Hemodialisis di RSUP DR. M. Djamil Padang Tahun 2017. *The Shine Cahaya Dunia S-1 Keperawatan*, 2(1), 26–34. <https://doi.org/10.35720/tscs1kep.v2i1.75>
- United States Renal Data System. (2020). *ADR reference tables 2020: All CKD tables 2020*. USDRS.
- Wangi, K. Y. W., Sela, D. P., & Ambarsar, C. E. (2019). Nurse's Experience As Educator in Hemodialysis Care to End Stage Renal Disease Patient in Hospital X: a Phenomenology Study. *KnE Life Sciences*, 847-860. <https://doi.org/10.18502/kls.v4i13.5344> \
- Yuliawati, A. N., Ratnasari, P. M. D., & Pratiwi, I. G. A. S. (2022). Hubungan Kepatuhan Pengobatan Dengan Kualitas Hidup Pasien Gagal Ginjal Kronik Disertai Hipertensi dan Menjalani Hemodialisis. *Jurnal Manajemen Dan Pelayanan Farmasi (Journal of Management and Pharmacy Practice)*, 12(1). <https://doi.org/10.22146/jmpf.69974>
- Zuriati. (2018). Hubungan Motivasi dan Dukungan Petugas Kesehatan dengan Kepatuhan Pasien Gagal Ginjal Kronik yang Menjalani Hemodialisis di RSUP. DR. M. Djamil Padang Tahun 2016. *JIK- Jurnal Ilmu Kesehatan*, 2(1), 136–142. <https://doi.org/10.33757/jik.v2i1.76>